

## CLAIMS:

1. A broadcast processing system comprising:

at least a first router for preventing a network-wide broadcast packet in a first subnetwork from reaching a second subnetwork which is different from said first subnetwork;

a first broadcast relay belonging to said first subnetwork for, upon detecting the network-wide broadcast packet in said first subnetwork, generating a unicast address changed packet in which a destination address of said network-wide broadcast packet is changed to an address of a second broadcast relay belonging to said second subnetwork and outputting said address changed packet inside the first subnetwork; and

said second broadcast relay belonging to said second subnetwork for, upon receiving a packet addressed thereto, generating a first-type broadcast packet in which the destination address of the received packet is changed to the one related to a first-type broadcast, and outputting said first-type broadcast packet inside said second subnetwork.

2. The broadcast processing system according to Claim 1, further comprising at least a second router for preventing the address changed packet in said second subnetwork from reaching said first subnetwork, wherein said second broadcast relay generates, upon detecting the address changed packet in said second subnetwork, a unicast address changed packet in which a destination address of the network-wide broadcast packet is changed to an address of said first broadcast relay and outputs the address changed packet inside the second subnetwork, and said first broadcast relay generates, upon receiving a packet whose destination address is its own address, a first-type broadcast packet in which the destination address of the address changed packet is changed to the one related to a first-type broadcast and outputs said first-type broadcast packet inside said first subnetwork.

3. The broadcast processing system according to Claim 1, wherein said first-type broadcast is a broadcast dedicated to the subnetwork in which it is outputted.
4. The broadcast processing system according to Claim 2, wherein said first router include a router for preventing the address changed packet in the first subnetwork from going out of said first subnetwork, and said second router include a router for preventing the address changed packet in the second subnetwork from going out of said second subnetwork.
5. The broadcast processing system according to Claim 1, wherein the first and second subnetworks are interconnected via a subnetwork other than said first and second subnetworks, or the Internet.
6. The broadcast processing system according to Claim 1, wherein there exist a plurality of the second subnetworks having network addresses which are different from each other, said second broadcast relay exists in each second subnetwork, and upon detecting one network-wide broadcast packet, said first broadcast relay generates a plurality of address changed packets, from said one network-wide broadcast packet, in which the destination address of said one network-wide broadcast packet is changed to the addresses of the respective second broadcast relays and outputs the plurality of address changed packets inside the first subnetwork.
7. A broadcast processing apparatus having a sending broadcast processing apparatus and a receiving broadcast processing apparatus belonging to first and second subnetworks, respectively, wherein:
  - said sending broadcast processing apparatus includes:
    - network-wide broadcast detecting device for detecting a network-wide broadcast in the first subnetwork;
    - address changed packet generating device for generating a unicast address

changed packet in which a destination address of a network-wide broadcast packet related to the network-wide broadcast detected by said network-wide broadcast detecting device is changed to the address of said receiving broadcast processing apparatus; and address changed packet outputting function for outputting said address changed packet inside the first subnetwork, and

said receiving broadcast processing apparatus includes:

receiving function for receiving a packet addressed to said receiving broadcast processing apparatus;

first-type broadcast packet generating function for generating a first-type broadcast packet in which a destination address of the packet received by said receiving function is changed to the one related to a first-type broadcast; and

broadcast outputting function for outputting said first-type broadcast packet generated by said first-type broadcast packet generating function inside said second subnetwork.

8. The broadcast processing apparatus according to Claim 7, wherein said first-type broadcast is a broadcast dedicated to the subnetwork in which it is outputted.

9. The broadcast processing apparatus according to Claim 7, wherein the first and second subnetworks are interconnected via a subnetwork other than said first and second subnetworks, or the Internet.

10. A sending broadcast processing apparatus belonging to a first subnetwork, comprising:

network-wide broadcast detecting function for detecting a network-wide broadcast in said first subnetwork;

address changed packet generating function for generating a unicast address changed packet in which a destination address of a network-wide broadcast packet related to the network-wide broadcast detected by said network-wide broadcast detecting

function is changed to an address of a receiving broadcast processing apparatus belonging to a second subnetwork different from said first subnetwork; and  
address changed packet outputting function for outputting said address changed packet inside the first subnetwork.

11. A receiving broadcast processing apparatus belonging to a second subnetwork, comprising:

storage for receiving a packet addressed to said receiving broadcast processing apparatus;

first-type broadcast packet generating function for generating a first-type broadcast packet in which a destination address of the packet received by said storage is changed to the one related to a first-type broadcast; and

broadcast outputting function for outputting said first-type broadcast packet generated by said first-type broadcast packet generating function inside said second subnetwork.

12. A broadcast processing method comprising:

providing a first broadcast relay to detect a network-wide broadcast in a first subnetwork;

generating with said first broadcast relay, a unicast address changed packet in which a destination address of the network-wide broadcast packet related to the network-wide broadcast detected by said first broadcast relay is changed to the address of a second receiving broadcast relay in a second subnetwork; and

outputting said address changed packet inside the first subnetwork.

13. The method of claim 12 further including:

receiving in said second subnetwork a packet addressed to said second receiving broadcast relay;

generating a first-type broadcast packet in which a destination address of the

packet received by said second receiving broadcast relay is changed to the one related to a first-type broadcast; and

outputting said first-type broadcast packet generated by said second receiving broadcast relay inside said second subnetwork.

14. The broadcast processing method according to Claim 12, wherein said first-type broadcast is a broadcast dedicated to the subnetwork in which it is outputted.

15. The broadcast processing method according to Claim 12, wherein the first and second subnetworks are interconnected via a subnetwork other than said first and second subnetworks, or the Internet.

16. A sending broadcast processing method to be implemented by a sending broadcast processing apparatus belonging to a first subnetwork, said method comprising:  
detecting by a broadcast relay a network-wide broadcast in said first subnetwork;  
generating a unicast address changed packet in which a destination address of a network-wide broadcast packet related to the network-wide broadcast detected by said broadcast relay is changed to an address of a receiving broadcast processing apparatus belonging to a second subnetwork different from said first subnetwork; and  
outputting said address changed packet inside the first subnetwork.

17. A receiving broadcast processing method to be implemented by a receiving broadcast processing apparatus, said method comprising:  
receiving a packet addressed to said receiving broadcast processing apparatus;  
generating a first-type broadcast packet in which a destination address of the packet received is changed to the one related to a first-type broadcast; and  
outputting said first-type broadcast packet inside said subnetwork.

18. An article of manufacture comprising:

a medium on which a computer program is recorded, said computer program including

a first set of instructions to detect a network-wide broadcast packet; and

a second set of instructions to generate an address change packet by changing a network-wide broadcast address to an address for a receiving broadcast processing relay in another subnetwork.

19. An article of manufacture of claim 18 further including

a third set of instructions to receive a predefined packet originating from another network; and

a fourth set of instructions to generate a first-type broadcast packet in which a destination address of the received packet is changed to the one relating to a first type broadcast.